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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,125	03/23/2004	Takahiro Tsuchiya	119200	2123

25944 7590 11/29/2005

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER	
CHANDRAN, BIJU INDIRA	
ART UNIT	**PAPER NUMBER**
2835	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/806,125	TSUCHIYA ET AL.	
	Examiner	Art Unit	
	Biju Chandran	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/11/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

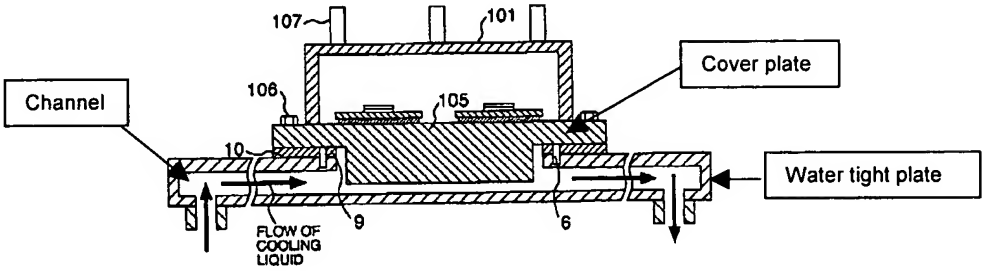
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

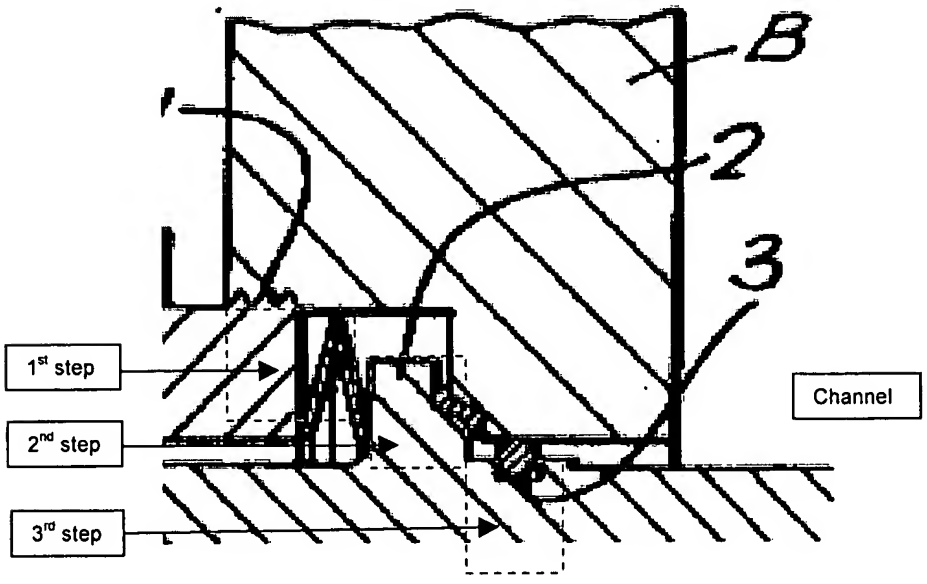
1. Claim 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (PGPub US 2001/0014029 A1) in view of Gunn et al. (US Patent 5,024,503).

FIG. 3



- Regarding claim 1, Suzuki et al. disclose a watertight plate including a channel sidewall which contact with a cover plate demarcate a channel, wherein, on the channel sidewall a resin lump (10), of the sealing resin is housed. While Suzuki et al. do not explicitly say that the seal is made of resin, they do indicate that the seal (10) may comprise gaskets composed of laminated or combined rubber, compounds, metals or O rings (paragraph 0031), some of which falls within the definition of 'resin' (Academic Press Dictionary of Science

and Technology defines resin as: Any one of several solid or semisolid natural or synthetic organic products, usually translucent polymers that do not conduct electricity; used in plastics, textiles, paints, and varnishes). Suzuki et al. do not disclose step portions on the channel sidewall housing the sealing resin. Gunn et al. (figure 2) disclose a channel sidewall which contact a cover plate demarcating a channel, and formed on the channel are: a first step portion in contact with the cover plate; a second step portion which is closer to the channel and lower than the first step portion and is applied with a sealing resin; and a third step portion which is closer the channel and lower than the second step portion and within which the sealing material is housed.



At the time of the invention, it would have been an obvious matter to one of ordinary skill in the art, to incorporate the step portions housing the sealing material as taught by Gunn et al. in the watertight plate

disclosed by Suzuki et al., to provide a good seal for the channel even in high pressure.

- Regarding claim 2, Suzuki et al. disclose a power supply device (paragraph 0006) including a watertight plate with electronic parts including a switching element (301a), a transformer (first four lines of paragraph 0020 which disclose that a function of the enclosed electronic devices is to convert a DC input into an AC output of variable voltage. A device which changes the voltage of an input current is a transformer – paraphrasing from Academic Press Dictionary of Science and Technology) and a rectifier (last three lines of paragraph 0021 which describe that another function of the enclosed electronic devices is to convert AC input from the motor to DC input into the battery. A rectifier is a device that converts alternating current into direct current, according to the Academic Press Dictionary of Science and Technology) mounted thereon, said watertight plate having a channel sidewall contact with a cover plate and demarcating a channel through which a coolant flows for cooling said electronic parts (see attached figure). Suzuki et al. do not disclose step portions on the channel sidewall housing the sealing resin. Gunn et al. (figure 2) disclose a channel sidewall, wherein on the channel sidewall, formed are: a first step portion in contact with the cover plate; a second step portion which is closer the channel and

lower than the first step portion and applied with a sealing resin; and a third step portion which is closer to the channel and lower than the second step portion and within which a resin lump of the sealing resin is housed (see attached figure). At the time of the invention, it would have been an obvious matter to one of ordinary skill in the art, to incorporate the step portions housing the sealing material as taught by Gunn et al. in the watertight plate disclosed by Suzuki et al., to provide a good seal for the channel even in high pressure.

- Regarding claim 3, Suzuki et al. disclose a power supply device including a watertight plate with electronic parts including switching element (301a), transformer (first four lines of paragraph 0020 which disclose that a function of the enclosed electronic devices is to convert a DC input into an AC output of variable voltage. A device which changes the voltage of an input current is a transformer – paraphrasing from Academic Press Dictionary of Science and Technology) and a rectifier (last three lines of paragraph 0021 which describe that another function of the enclosed electronic devices is to convert AC input from the motor to DC input into the battery. A rectifier is a device that converts alternating current into direct current, according to the Academic Press Dictionary of Science and Technology) mounted thereon, said watertight plate having channel sidewall in contact with cover plate with a sealant resin (10) between them (see attached

figure), and demarcating a channel through which coolant flows for cooling said electronic parts. Suzuki et al. do not disclose step portions on the channel sidewall housing the sealing resin. Gunn et al. (figure 2) disclose a channel sidewall, wherein, the first step portion contacts with the cover plate; second step portion which closer to the channel and lower than the first step portion and is applied with a sealant; and a third step portion which is closer the channel and lower than the second step portion and within which the sealant is housed (see attached figure); and the channel is demarcated when the sealant is applied onto the second step portion of the watertight plate and the cover plate is brought into contact with the first step portion of the watertight plate. At the time of the invention, it would have been an obvious matter to one of ordinary skill in the art, to incorporate the step portions housing the sealing material as taught by Gunn et al. in the watertight plate disclosed by Suzuki et al., to provide a good seal for the channel even in high pressure.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Birx et al., US 5,448,580 discloses a fluid cooled power supply device comprising a switching element, transformer, and a rectifier.

- Yamada et al. US 2003/0053298 A1 discloses a liquid-cooled power circuit with a sealing material sealing the liquid flow channel.
- Harting et al., US 6,156,970 discloses a sealed housing for electrical and electronic components with different designs seal and gland designs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Biju Chandran whose telephone number is (571) 272-5953. The examiner can normally be reached on 8AM - 5PM. Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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LYNN FEILD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800